

### IN THE CLAIMS

Please amend the claims as follows:

1-2 (Cancelled)

3. (Currently Amended) A modulated ultra wideband pulse generation system, comprising:  
a pulse waveform generator circuit operable to generate an on-off pulse waveform;  
a modulating circuit, operable to receive a modulating signal and to modulate the on-off  
pulse waveform in response to the modulating signal to produce an ultrawideband radio  
frequency pulse;

an antenna; and ~~The modulated ultra wideband pulse generation system of claim 2,~~  
further comprising a capacitor placed between the antenna and the modulating circuit.

4. (Currently Amended) A modulated ultra wideband pulse generation system,  
comprising:  
a pulse waveform generator circuit operable to generate an on-off pulse waveform;  
a modulating circuit, operable to receive a modulating signal and to modulate the on-off  
pulse waveform in response to the modulating signal to produce an ultrawideband radio  
frequency pulse ~~The modulated ultra wideband pulse generation system of claim 1,~~ wherein the  
pulse waveform generator circuit generates a pseudorandom waveform.

5. (Currently Amended) A modulated ultra wideband pulse generation system,  
comprising:  
a pulse waveform generator circuit operable to generate an on-off pulse waveform;  
a modulating circuit, operable to receive a modulating signal and to modulate the on-off  
pulse waveform in response to the modulating signal to produce an ultrawideband radio  
frequency pulse; and ~~The modulated ultra wideband pulse generation system of claim 1,~~ further  
~~comprising~~ a variable bandwidth circuit operable to change the bandwidth of the ultra wideband  
pulse.

6. (Original) The modulated ultra wideband pulse generation system of claim 5, wherein the variable bandwidth circuit comprises a lowpass filter.
7. (Original) The modulated ultra wideband pulse generation system of claim 6, wherein the lowpass filter comprises a resistor – capacitor circuit wherein at least one of the resistor and capacitor are variable.
8. (Cancelled)
9. (Currently Amended) A modulated ultra wideband pulse generation system, comprising:  
a pulse waveform generator circuit operable to generate an on-off pulse waveform;  
a modulating circuit, operable to receive a modulating signal and to modulate the on-off pulse waveform in response to the modulating signal to produce an ultrawideband radio frequency pulse; wherein the modulating circuit comprises a pulse position modulator operable to selectively delay the on-off pulse waveform in response to a modulating signal, the pulse position modulator comprising~~The modulated ultra wideband pulse generation system of claim 8,~~  
~~wherein the pulse position modulator comprises~~ a resistor – capacitor lowpass filter having a time constant that is varied in response to the modulating signal, operable to selectively delay the pulse position in response to the modulating signal.
- 10-11 (Cancelled)
12. (Currently Amended) A modulated ultra wideband pulse generation system,  
comprising:  
a pulse waveform generator circuit operable to generate an on-off pulse waveform;  
a modulating circuit, operable to receive a modulating signal and to modulate the on-off pulse waveform in response to the modulating signal to produce an ultrawideband radio frequency pulse; wherein the modulating circuit comprises a phase modulator operable to selectively change the phase of the waveform in response to a modulating signal. ~~The modulated ultra wideband pulse generation circuit of claim 11,~~ wherein the phase modulator comprises an

exclusive or (XOR) gate having the on-off pulse waveform as one input, a modulating signal as a second input, and a modulated signal as an output.

13-14 (Cancelled)

15. (Currently Amended) A method of producing a modulated ultra wideband pulse, comprising:

generating an on-off pulse waveform;

modulating the on-off pulse waveform in response to a received modulating signal to produce a modulated ultrawideband radio frequency pulse; and ~~The method of claim 13,~~

wherein the generated on off pulse waveform comprises a random or pseudorandom stream of on-off pulses.

16. (Currently Amended) A method of producing a modulated ultra wideband pulse, comprising:

generating an on-off pulse waveform;

modulating the on-off pulse waveform in response to a received modulating signal to produce a modulated ultrawideband radio frequency pulse; and

~~The method of claim 13, further comprising~~ changing the bandwidth of the on-off pulse waveform via a variable bandwidth circuit.

17. (Original) The method of claim 16, wherein the variable bandwidth circuit comprises a resistor – capacitor lowpass circuit wherein at least one of the resistor and capacitor are variable.

18. (Cancelled)

19. (Currently Amended) A method of producing a modulated ultra wideband pulse, comprising:

generating an on-off pulse waveform; and

modulating the on-off pulse waveform in response to a received modulating signal to produce a modulated ultrawideband radio frequency pulse, wherein modulating the on-off pulse waveform comprises modulating the pulse position such that the pulse position is selectively delayed in response to a modulating signal, and~~The method of claim 18,~~ wherein the pulse position is modulated via a resistor – capacitor lowpass filter having a time constant that is varied in response to the modulating signal, operable to selectively delay the pulse position in response to the modulating signal.

20-21 (Cancelled)

22. (Currently Amended) A method of producing a modulated ultra wideband pulse, comprising:

generating an on-off pulse waveform; and  
modulating the on-off pulse waveform in response to a received modulating signal to produce a modulated ultrawideband radio frequency pulse, wherein modulating the on-off waveform comprises phase modulation of the waveform such that the phase of the waveform is selectively changed in response to a modulating signal~~The method of claim 21,~~ wherein the phase modulation is performed via a circuit comprising an exclusive or (XOR) gate having the on-off pulse waveform as one input, a modulating signal as a second input, and a modulated signal as an output.